

Appl. No. 09/978,409  
Amdt. Dated June 25, 2003  
Reply to Office action of January 29, 2003

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (currently amended): A door assembly comprising:

a frame assembly designed and adapted to define a substantially unbroken sealing surface around substantially the entire periphery of said frame assembly; and

a first door having a substantially continuous peripheral surface and a first substantially continuous sealing member mounted on said first door and a second substantially continuous sealing member mounted on said first door;

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said first and second sealing ~~member~~ members being designed and adapted to engage said sealing surface and thereby provide a substantially continuous seal around said peripheral surface of said door when said door is closed.

Claim 2 (cancelled):

Claim 3 (original): A door assembly according to claim 1 wherein said frame assembly comprises at least one frame member having an outwardly extending rib that defines a portion of said substantially ~~continuous~~ unbroken sealing surface.

Claim 4 (currently amended): A door assembly according to claim 1 wherein said frame assembly comprises:

a generally U-shaped member having an open lower end and an outwardly facing surface that comprises a major portion of said substantially unbroken sealing surface; and

a threshold that bridges said open lower end of said U-shaped member, said ~~member~~ threshold having an outwardly facing surface, substantially coplanar to said outwardly

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facing surface of said generally U-shaped member, that completes said substantially continuous sealing surface.

Claim 5 (currently amended): A door assembly comprising:

a frame assembly designed and adapted to define a substantially unbroken sealing surface around substantially the entire periphery of said frame assembly said frame assembly having notches; and

a first door having a substantially continuous sealing member mounted on said first door;

said sealing member being designed and adapted to engage said sealing surface and thereby provide a substantially continuous seal around said door when said door is closed;

~~A door assembly according to claim 1 wherein said frame assembly has notches~~, further comprising a second door and a plurality of hinge assemblies supporting said second door, said hinge assemblies comprising hinge leafs designed and adapted to pivot into said notches as when said second door is pivoted into a closed position, whereby a section of said hinge assembly and a section of said notched surface are substantially coplanar and define a portion of said substantially continuous unbroken sealing surface.

Claim 6 (cancelled)

Claim 7 (currently amended): A door assembly comprising:

a frame assembly designed and adapted to define a substantially unbroken sealing surface around substantially the entire periphery of said frame assembly; and

a first door having a substantially continuous sealing member mounted on said first door;

said sealing member being designed and adapted to engage said sealing surface and thereby provide a substantially continuous seal around said door when said door is closed;

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~~A door assembly according to claim 1~~, wherein said frame assembly has one or more frame notches, further comprising:

a second door and a plurality of hinge assemblies supporting said first door and said second door, said hinge assemblies comprising:

a stepped fixed hinge leaf, designed and adapted to be mounted in said frame notch and having an outwardly facing edge with one or more hinge leaf notches;

a first hinge leaf designed and adapted to support said first door; and

a stepped, second hinge leaf designed and adapted to support said second door and to pivot into said hinge leaf notch when said second door is pivoted into a closed position, whereby sections of said second hinge leaf, said fixed hinge leaf and said frame are substantially coplanar and define a portion of said substantially continuous sealing surface.

Claim 8 (original): A door assembly according to claim 7 herein said door assembly comprises a prime door and a screen door and said second hinge assembly supports said screen door.

Claim 9 (currently amended): A door frame assembly comprising:

a stepped, U-shaped frame member having:

a first, laterally facing section designed and adapted to be mounted to a structure;

a second, outwardly facing section designed and adapted to define a sealing surface;

a third, exterior terminating section; and

a stepped, square cut threshold having:

a outwardly facing section that is substantially coplanar with said outwardly facing section of said frame member; and

an outer section that extends outward from said outwardly facing section and has an ~~end~~ end that is square cut with and substantially coplanar with an end of said ~~outwardly facing~~

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exterior terminating section, whereby there is a space between the end of said outer section of the sill member threshold and the third exterior terminating section of said vertical U-shaped frame member; and

a plug attached to at least one of said sill threshold and said frame member, and closing said space.

Claim 10 (original): A door according to claim 9 wherein said plug comprises nylon.

Claim 11 (cancelled):

Claim 12 (currently amended): A door assembly having at least one hinge assembly mounted on a door frame, said hinge assembly comprising:

a mounting plate having an upper fixed knuckle and a lower fixed knuckle, each of said knuckles having bores with a common axis;

stepped bushings with first sections mounted in said bores and second sections that are larger than said bores, said bushings being inserted into said bores so that the larger section of one bushing is above the upper knuckle and the larger section of another bushing is above the lower knuckle;

a hinge leaf having a leaf knuckle that is positioned between and has a bore that is substantially coaxial with the bores of said upper fixed knuckle and said lower fixed knuckle;

a stepped leaf bushing having a first section mounted in said leaf bore and a second section that is larger than said leaf bore, said leaf bushing being inserted into said leaf bore so that said second section of said leaf bushing is below said leaf knuckle and is supported by the bushing mounted in the lower knuckle; and

a metallic pin extending through said bushings, whereby said hinge leaf can pivot with respect to said mounting plate with minimal metal-to-metal wear between said knuckles, and between said pin and said knuckles;

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said bores ~~comprise~~ comprising narrower orienting grooves and at least one wider orienting groove with a bottom that is wider than a bottom of said narrower orienting groove; and

the bodies of said bushings ~~comprise~~ comprising narrower orienting ribs designed to fit into said narrower orienting grooves, and at least one wider orienting rib designed to fit into said wider orienting groove.

Claim 13 (original): A door assembly according to claim 12 wherein said bores have at least two of said wider orienting grooves and the bodies of said bushings have at least two of said wider orienting ribs.

Claim 14 (original): A door assembly according to claim 12 wherein said heads of said bushings comprise contact surface on the opposite side of the heads from the bodies of the bushings, and said contact surfaces comprise at least two raised contact surfaces, at least two depressed contact surfaces, each of said depressed contact surfaces being between two of said steps, with inclined surfaces between said steps and said valleys.

Claim 15 (original): A door assembly according to claim 14 wherein said steps are substantially flat and coplanar, and said valleys are substantially flat, coplanar and parallel to said steps.

Claim 16 (original): A door assembly to claim 15 wherein said inclined surfaces have a substantially constant slope.

Claim 17 (original): A door assembly according to claim ~~11~~ 12 further comprising at least one annular plug inserted into the opposite end of one of said bores from the larger end of the bushing inserted into said bore.

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Claim 18 (original): A door assembly according claim 17 wherein said annular plugs are inserted into the opposite ends of all of bores in the hinge knuckles of said assembly from, and said metallic pin extends through all of said plugs and bushings.

Claim 19 (original): A door assembly according to claim ~~11~~ 12 wherein said bushings comprise acetal plastic.

Claim 20 (original): A door assembly comprising:

- a door with a notched edge and a groove designed and adapted to support a weather seal;

- a hinge leaf in a notch in said edge, said leaf having a groove designed and adapted to support a weather seal, said leaf groove being aligned with the groove in said door; and

- a weather seal extending through the groove in the edge of the door and the groove in the hinge leaf.

Claim 21 (original): A door assembly according to claim 20 wherein said door comprises an edge member having an arm extending therefrom and said groove comprises a slot with a cruciform cross-section in said arm; and

- said groove in said hinge leaf comprises a cruciform slot.

Claim 22 (original): A door assembly according to claim 21 wherein said weatherseal comprises a cruciform section designed and adapted to be mounted in said grooves, and a serpentine section extending from said cruciform section.

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Claim 23 (original): A door assembly according to claim 22 wherein said cruciform section of said weather seal comprises polypropylene and said serpentine section comprises a thermoplastic elastomer, and said polypropylene and said thermoplastic elastomer are co-extruded to form said weather seal.

Claim 24 (original): A door assembly according to claim 22 further comprising a noise reduction seal, said noise reduction seal being attached to said first door and having a section that extends into said serpentine section of said weatherseal.

Claim 25 (original): A door assembly comprising:

a frame assembly with a flange having a groove extending along said flange, and a door pivotally attached to said frame by a plurality of hinges, said hinges having at least one leaf with a rib designed and adapted to pivot into said groove as said door is closed.

Claim 26 (original): A door assembly according to claim 25 wherein said groove has an inwardly sloping side and said rib has an outwardly sloping side that compliments said inwardly sloping side.